FRDA

CANADA-BRITISH COLUMBIA FOREST RESOURCE DEVELOPMENT AGREEMENT 1985-1990

ANNUAL REPORT 1987 - 1988

Renewing our forests

A FEDERAL/PROVINCIAL COMMITMENT

FOREST RESOURCE DEVELOPMENT AGREEMENT

FRDA

CANADA-BRITISH COLUMBIA FOREST RESOURCE DEVELOPMENT AGREEMENT 1985-1990

1987-1988 ANNUAL REPORT

Submitted to:

The Honourable Gerry St. Germain
Minister of State (Forestry)
The Government of Canada

The Honourable Dave Parker
Minister of Forests
The Government of the
Province of British Columbia

The 1987/1988 Annual Report is presented in accordance with
Section 3.6 of the Canada-British Columbia Forest Resource Development Agreement.

Approved by:

R.C. Dobbs
Acting Director General
Pacific and Yukon Region
Canadian Forestry Service

Date 16 Nov 88

Approved by:

J.R. Cuthbert
Chief Forester
Ministry of Forests

Date 88.11.21

89-05092/

Contents

Highlights 3
Executive summary 4
Overview 5
Introduction 6
Administration 6
1987/88 Review 7
- Expenditures 7
- Achievements 7
- Employment 7
- Cost-shared programs 7
- Provincially managed programs 11
- Federally managed programs 12

Amendments to 1987/88 Work Plan 14
1988/1989 Work plan and budget
FRDA Management Structure 15

Annex: 1985-1988 Cumulative Achievements
Table 4 1987/1988 Expenditures by Subprogram
Table 5 Cumulative Expenditures (April 1, 1985 - March 31, 1988)
Table 6 FRDA Five Year Plan (1985 - 1990)
Table 7 Cumulative Area Treated (April 1, 1985 - March 31, 1988)
Table 8 Cumulative Person Days of Work Created

1987/1988 HIGHLIGHTS

- Total area treated	100,005 ha
- Area surveyed	203,215 ha
- Area site prepared	27,943 ha
- Area planted	29,113 ha
- Area intensively managed	42,949 ha
- Employment generated	325,407 person days
- Estimated sustainable increase in growth	177,000 m^3/year
- Expenditures	$70,316,363

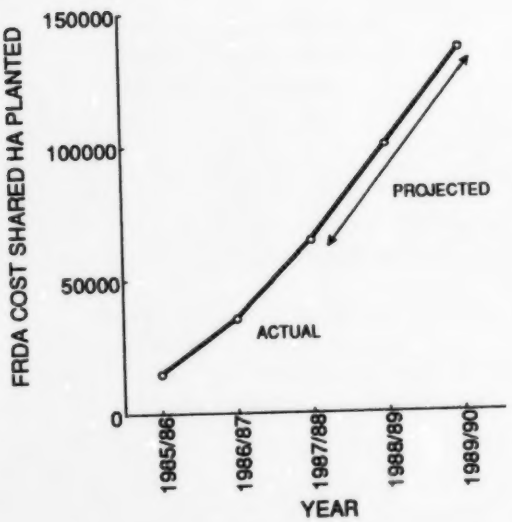
The Agreement will fund the planting of 135 000 hectares of the 738 000 ha of not satisfactorily restocked land in British Columbia.

It will also protect that investment through intensive forest management.

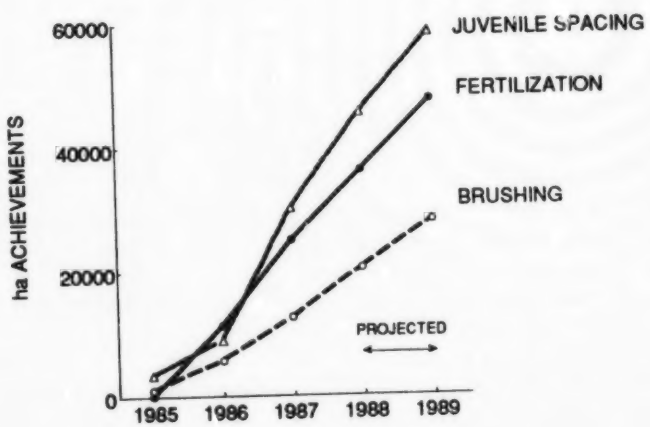
The Agreement will support research into new treatments of not satisfactorily restocked lands

It will transfer research results to practicing foresters.

FRDA
BACKLOG FOREST
MANAGEMENT ACHIEVEMENTS



FRDA
INTENSIVE FOREST
MANAGEMENT ACHIEVEMENTS



Executive Summary

Activity in the third year increased 40 percent over that of the previous year. This level of activity will be sustained through the last two years of the Agreement.

A total of 100,005 hectares of Crown land were treated in 1987/88, and 203,215 hectares were surveyed. The success of the third year continued to build on the planning and research of the first two years.

In addition, progress continued on surveys, development of ecological prescriptions, and management plans. This was particularly important for the federally managed component, which carried out programs on Indian lands, as well as private and federal lands.

The provincially managed portion of the Agreement continued its focus on monitoring growth and yield performance, seed supply and processing needs, applied research support, and pest control.

Expenditures during the third year of the Canada-British Columbia Forest Resource Development Agreement totaled $70,316,363. Of this total, $58,670,653 was spent on cost-shared programs. Projects which were funded and managed solely by the federal government comprised $5,718,369 of the total; and projects funded and managed solely by the provincial government comprised $5,927,341 of the total. Funding programs under the Agreement generated more than 325,000 person-days of employment in the 1987/88 fiscal year.

A concentrated effort was made to acquire the knowledge required to reforest backlog areas and to demonstrate the results under the Extension, Demonstration and R&D subprograms.

As the Agreement passed its halfway point, an independent mid-term evaluation was undertaken covering the achievements, impacts, and effects of the Agreement. The evaluation found that, " (the Agreement) continues to be appropriate... and the intended goals and objectives generally are being achieved". The evaluation concludes " While it (the Agreement) is by no means the only forest resource initiative in progress, it is the single most significant cost-shared forest resource investment currently under way within the province". The evaluation estimates that forest management treatments under FRDA will produce an increase of 340,000 cubic meters annually in B.C.'s timber growth.

The budget for the 1988/1989 fiscal year is:

Component	Expenditure ($ million)
Cost-shared (50% Federal, 50% Provincial)	62.9
Federally managed	8.7
Provincial managed	6.4
Total 1988/89 Budget	78.0

Overview

Duration 1985 - 1990

Between

The Government of Canada
represented by the Canadian Forestry Service
Minister of Agriculture
Minister of State (Forestry)

And

The Government of the Province of
British Columbia represented by the
Minister of Forests and the
Minister of Industry and Small
Business Development

Authority

Canada-British Columbia Economic and Regional Development Agreement, signed November 23, 1984

Federal Canada Forestry Development and Research Act, 1966

Provincial Ministry of Forests Act, 1979

Funding, 1985-1990

Total: $300 million ($150 million federal, $150 million provincial).

3 main programs: Backlog Reforestation: $199.5 million
Intensive Forest Management: $86.0 million
Implementation, Communication & Evaluation: $14 million

Cost-Shared Ratio

$240 million cost-shared
$30 million managed solely by the Federal Government
$30 million manages solely by the Provincial Government

Employment

Between 1985 and 1990, the Agreement is expected to generate 500 full-time jobs and short-term employment for over 15 000 persons.

Goals: - Plant up to 150,000 hectares with 180 million seedlings
- Survey 250,000 hectares
- Space and fertilize up to 66,700 hectares
- Provide silviculture treatments to an additional 36,000 hectares

Introduction

The Canada-British Columbia Forest Resource Development Agreement is a joint initiative between Canada and the Province of British Columbia in recognition of the importance of the forest industry to the economic and social well-being of the Province of British Columbia.

The forestry sector in British Columbia provides some 86,000 jobs directly and some 172,000 jobs indirectly. It constitutes 10 percent of the total gross provincial product. Many communities are highly dependent upon the forest industry as their major or only economic base.

However, there are some 738,000 hectares of not satisfactorily restocked lands on good and medium sites which are not contributing to forest growth. In addition, there are many established juvenile stands which need intensive forest management to sustain growth.

Consequently, the Agreement is concentrating on the following:

a) Managing and reforesting part of the backlog of not satisfactorily restocked lands;

b) Intensively managing selected forest stands;

c) Supporting forestry research by government and non-government organizations;

d) Assisting the forest industry through studies of utilization, marketing and product development, technology transfer, and training.

Administration

A joint federal-provincial Management Committee, shown in Figure 1, has been charged by the provincial and federal Ministers with the responsibility of implementing the Agreement.

The Management Committee has appointed working groups, shown in Figure 1, to review and make recommendations on subprograms, activities, and projects.

The allocation of funds among programs and subprograms is based on Schedule B of the Agreement. Details of the five year plan by subprogram are shown in Table 6.

The regional goals of backlog reforestation, Program 1, are further divided based on the distribution of not satisfactorily restocked land in the province. This division in turn determines the funding level for site preparation, planting and brushing.

The regional funding levels for intensive forest management, Program 2, are allocated through weighted factors reflecting potential supply shortages by region, potential treatable areas, the dependence of the population on the forest industry, forest industry activity, and site productivity.

1987/88 Review

The Agreement is being implemented through a cost-shared component managed by the Ministry of Forests and two unilaterally funded components administered by The Canadian Forestry Service and the Ministry of Forests.

Achievements

More than 100,005 hectares of forest land were treated in 1987/88 as shown in Table 2 and details by forest region in Table 7. This included site preparation of 27,843 hectares, planting of 34.62 million seedlings on 29,113 hectares, and intensive forest management treatments on 42,949 hectares. In addition, over 203,000 hectares of land were surveyed to assess furure treatments or reclassify land as satisfactorily restocked. Planning for treatments on not satisfactorily restocked lands has improved in conjunction with the increased operational work being done under the Agreement.

These achievements are distributed among every forest district of the province.

Expenditures

During the third year of the Agreement, approximately $70.316 million was spent as shown in Table 1. Exact expenditures are shown in Table 4. The cumulative expenditure from April 1, 1985 to March 31, 1988, detailed in Table 5 was $138.328 million, approximately 46 percent of the $300 million budgeted to the Agreement.

Expenditures in 1987/88 by the province totaled $35.262 million: $29.335 million was spent on the cost-shared component, and $5.927 million on the provincially managed component.

Expenditures in 1987/88 by the Federal Government totaled $35.053 million: $29.335 million was spent on the cost-shared component, and $5.718 million on the federally managed component.

Employment

Employment generated through the cost shared programs in the third year of the Agreement escalated to more than 278,825 days of work (Table 2). In addition to the employment generated through the cost-shared programs, approximately 23,709 days of work were created through the provincially managed component and 22,873 days through the federally managed component.

Over 546,806 days of work have been created during the first three years of the Agreement (Table 8).

Cost-shared programs

Program 1. Backlog reforestation

The largest of the three programs is the Backlog Reforestation Program. In 1987/1988, 29,113 hectares of good and medium not satisfactorily restocked sites were planted. Of the target to rehabilitate 150,000 hectares over the life of the Agreement, 42 percent, or 64,208 hectares, have been planted to the end of 1987/88. Site preparation and rehabilitation was carried out on 60,515 hectares.

A total of 34.62 million seedlings were cost shared in 1987-1988 at a cost of $6.31 million. The average cost per seedling was 18.6 cents. The number of seedlings planted was down from the estimate of 39.3 millions seedlings because of a reduced density required per hectare. In addition, a shortfall of seedlings for the current Ministry programs led to a transfer of FRDA seedlings to those sites which were prone to rapid brush regrowth.

In the third year of the Agreement, 203,215 hectares of not satisfactory restocked land were surveyed. Detailed prescriptions and management plans were developed for many of the lands.

1987/1988 Expenditures by Subprogram
(dollars)

Programs and Subprograms		Federal Component	Provincial Component	Cost-Shared		Subprogram Totals
				Federal	Provincial	
Program 1. Backlog reforestation						
1.1	Surveys and Prescriptions	977,647	0	1,360,460	1,360,460	3,698,567
1.2	Seeds and Seedlings	143,654	4,293,306	3,155,488	3,155,488	10,747,936
1.3	Site Preparation	409,544	0	4,762,414	4,762,414	9,934,372
1.4	Planting	78,685	0	6,358,049	6,358,049	12,794,783
1.5	Implementation	1,128,305	NA	NA	NA	1,128,305
1.6	Extension, Demonstration and R & D	1,459,554	1,004,822	1,922,282	1,922,282	7,437,245
	Program Total	4,197,389	5,298,128	17,558,693	17,558,693	44,612,903
Program 2. Intensive forest management						
2.1	Brushing, weeding, and Pest Control	105,580	172,748	1,512,883	1,512,883	3,304,094
2.2	Conifer release	48,235	0	575,258	575,258	1,198,752
2.3	Juvenile spacing	726,916	0	6,483,628	6,483,628	13,694,173
2.4	Fertilization	0	0	1,465,410	1,465,410	2,930,820
2.5	Implementation	407,784	NA	-	-	407,784
2.6	Extension, Demonstration and R & D	202,241	456,465	-	-	658,706
	Program Total	1,490,756	629,213	10,037,180	10,037,180	22,194,329
Program 3. Implementation, communications and evaluation						
3.1	Implementation Contracts, Monitoring and Evaluation	30,224	NA	1,548,847	1,548,847	3,128,188
3.2	Communications	0	NA	190,471	190,471	380,943
	Program Total	30,224	NA	1,739,454	1,739,454	3,509,131
	Grand total	5,718,369	5,927,341	29,335,326	29,335,326	70,316,363

TABLE 2
1987/1988 Accomplishments by Subprogram

		Goal	Achieved	Employment Created (person days)
Cost-shared programs:				
Program 1. Backlog Reforestation				
1.1	Surveys, prescriptions (ha)	171,964	203,215	20,321
1.2	Seedlings (number)	39,000,000	34,623,000	34,620
1.3	Site Preparation (ha)	35,848	27,943	13,971
1.4	Planting (ha)	31,433	29,113	58,226
1.5	Implementation	NA	NA	NA
1.6	Extension, demonstration, and R&D	NA	NA	24,946
	sub total			152,084
Program 2. Intensive forest management				
2.1	Brushing, weeding, and pest control	7,285	6,855	13,710
2.2	Conifer release	2,068	1,254	3,135
2.3	Juvenile spacing	20,182	21,143	84,572
2.4	Fertilization	13,547	13,697	1,370
2.5	Implementation	NA	NA	NA
2.6	Extension, demonstration, and R & D	NA	NA	NA
	sub total	43,082	42,949	102,787
Program 3: Implementation, Communications,Evaluation				
3.1	Implementation, Contracts Monitoring and Evaluation	NA	NA	23 954
3.2	Communications	NA	NA	NA
	sub total			23 954
Total for cost-shared programs				278 825
Separately managed programs:				
Federal component				22 873
Provincial component				23 709
Grand total				325 407

To date, 457,843 hectares have been surveyed. A reconnaissance has been done on many more hectares to determine their stocking levels and suitability for treatment.

Program 1. Cost-shared extension, demonstration and R & D

Sixty projects were initiated in 1987/88. These new projects, in addition to the 64 on-going projects, created over 5,435 days of employment for private contractors. Twenty-one projects were completed during the fiscal year, including integrated resource use projects. Projects included nursery stock improvement and disease control, site preparation equipment development, the beneficial use of fire as a silviculture tool, seedling survival, and prescription development for the free-growing stage of crop trees.

Documentation of results from research conducted under the Agreement increased substantially as manuscripts were reviewed. Twenty-nine **FRDA Memos** presenting interim results, updates, or summaries from ongoing research have been published and distributed to operational foresters. Other extension and demonstration activities increased in scope and importance as the results of the first three years of FRDA R & D. FRDA jointly sponsored four major workshops reaching more than 800 participants. In addition, 91 presentations, seminars, and field tours were made during the fiscal year.

In 1987/88, $3,844,564 was spent on cost-shared extension, demonstration and R & D. This subprogram addresses different phases of backlog regeneration problems and conveys the silviculture research results to field foresters responsible for implementing backlog reforestation operations under the Agreement.

Program 2. Intensive Forest Management

Under the Intensive Forest Management program 42,949 hectares were treated in 1987/88.

Of the intensive forest management target to treat approximately 180,000 hectares over the life of the Agreement, 38 percent, or 69,040 hectares, has been treated thus far. The commitment to maintain and enhance the quality of plantations and juvenile stands through intensive forest management ensures that seedlings reach a free-growing stage. This protects the original investment, and is essential to a good forest management strategy.

A subprogram was initiated during 1987/88 to undertake juvenile spacing on Tree Farm Licences. The allocation mechanism between regions established a minimum expenditure by TFL and considered the size and need of the TFLs.

Program 3. Implementation,communication, and evaluation

Implementation

Some of these funds were used to modify and enlarge the carrying capacity of a C & H Mechanical Planter. The planter was used to plant 120,000 seedlings on operational FRDA sites in Williams Lake, the Peace River area, Fort St. John, and Prince George West. A pre-production B.C. Ministry of Forest spot mounder for site preparation was further developed and tested on a 34-hectare cold, wet, backlog not satisfactorily restocked area.During the fiscal year, $4,811,348 was spent to employ contractors and consultants to assist in the implementation of FRDA projects.

Evaluation

The Evaluation working group initiated a mid-term evaluation as required by the Agreement. In addition, two studies were completed; an analysis of changes in timber values due to silviculture treatments, and an analysis of regeneration delays and natural yields on untreated backlog forest lands.

Communications

Communications activities during 1987/88 focused on promoting FRDA activities and achievements as the mid-point of the Agreement was reached. A series of news releases and newspaper ads were prepared and issued to all print and electronic media throughout the province highlighting FRDA accomplishments. A

poster display focusing on the objectives and achievements of FRDA was developed and placed in the headquarters and regional offices of the British Columbia Forest Service as well as the headquarters of the Canadian Forestry Service. The displays were used extensively during National Forest Week, and at other workshops and related trade shows during the year. Three issues of the Agreement newsletter, **Renewal**, were published and distributed.

In addition twelve weekly articles featuring research programs in the Agreement were distributed to all print media in the province. To support National Forest Week activities, a media kit was prepared for distribution by the British Columbia Forestry Association to all community newspapers throughout the province to assist them in publishing National Forest Week supplements. Kit material included news features, photographs and crossword puzzles. The Agreement also funded a series of radio public service announcements which were run free of charge during National Forest Week.

Through Green Gold Grants funded by the Agreement, twenty-six non-profit organizations throughout British Columbia were provided with a total of $105,000 for forestry public awareness projects during 1987/88. Projects funded included brochures and signs for interpretive forests, forestry displays, radio announcements, education materials, and slideshows.

A comprehensive communications program for the last two years of the Agreement was developed.

Provincially managed programs

Certain portions of the Agreement are administered and managed solely by the British Columbia Ministry of Forests. The provincially managed portion of the Agreement focuses on monitoring growth and yield performance, seed supply and processing needs, applied research support, and pest control.

Nursery Technology

New seed orchard equipment was purchased to improve coastal and interior seed operations.

During the fiscal year the Agreement provided for the modification and construction of nursery equipment at the Campbell River, Chilliwack, Green Timbers, Harrop, Koksilah, Red Rock, Surrey, Telkwa, Vernon Skimikin and Thornhill nurseries.

A major project was the construction of 10 greenhouses at the Skimikin Nursery to replace high risk open compound growing areas. This includes the installation of computerized environmental control systems in the container operations at the Skimikin and Surrey Nurseries.

Extension, Demonstration and R & D

The extension, demonstration and R & D portion of the Agreement managed by the British Columbia Ministry of Forests consists of eleven active projects in intensive forest management, and five in backlog reforestation for a total expenditure of $1,326,805. This includes contribution of $391,000 to the B.C. Research Council for capital improvements and operating costs of the Biotechnology Center.

Intensive forest management

Intensive forest management focused on developing computer simulation techniques that will enable managers to predict the growth and quality of stands grown under different silviculture regimes. Concurrently, researchers assessed data from old research plots established in British Columbia and around the world to calibrate and validate simulated results. In addition, investigations were continued to develop site-specific predictions on the response to fertilization of lodgepole pine, interior spruce, Douglas-fir, and larch. Continued progress was made on the development of site-specific guidelines for fertilizing coastal Douglas-fir.

Backlog reforestation

The backlog reforestation subprogram supported new field experiments to determine the effect of initial spacing and subsequent thinning on the growth of lodgepole pine, Douglas-fir, and interior spruce.

Federally managed programs

Certain portions of the Agreement are administered and managed solely by the Canadian Forestry Service of the Government of Canada. The federally managed portion of the Agreement comprises several important initiatives to develop the forestry potential of private, Indian, and federal lands throughout the province. An office in Prince George continued to offer services through the Agreement. In addition, the extension, demonstration and R & D program developed new techniques for treating the backlog of not satisfactorily restocked land and for the intensive management of juvenile stands.

Indian Forest Lands Program

During the third year, the Indian Forest Lands Program significantly increased intensive silviculture projects and continued to emphasize forest inventories and the development of forest management plans.

Twenty-six bands implemented silviculture projects during the 1987/88 fiscal year. Thirty-four bands completed inventories, pre-treatment surveys and management plans on 1,575 hectares. Since the program's inception, eighty-eight of British Columbia's one hundred ninety-six Indian bands have developed management plans and have conducted inventories on 173,300 hectares, and twenty-eight bands have completed silvicultural treatments on 1,601 hectares. This represents 45 percent of all Indian bands and 51 percent of all reserve land in British Columbia.

During the 1987/88 fiscal year, site preparation was done on 285 hectares and juvenile spacing was done on 1,005 hectares. Eighty hectares were planted, 66 hectares were brushed, and 39 hectares were treated to release young conifers from competing hardwoods. In anticipation of the demand for seedlings during the remaining years of the Agreement, 750,000 seedlings were sown.

The total expenditure in 1987/88 on the Indian Forest Lands Program was approximately $1.6 million, of which the Agreement directly contributed $1,333,700 (80%) as required under the approved policy.

Two issues of a quarterly newsletter, **Tree Talk,** described the achievements of the Indian Forest Lands Program.

Private Forest Lands Program

In British Columbia, an estimated 21,000 people own about 1 million hectares of forest land,most of which is not managed to established forest principles. This represents a tremendous underutilized forest potential which contain some of the most productive sites in the province.

The federally managed Private Forest Lands Program contributed $1,073,900 in 1987/88 to backlog reforestation and intensive forest management on private lands. This represents approximately 80 percent of actual project costs, the land owners contributing the balance.

The silvicultural activities were expanded during the third year of the Agreement, as land owners activated the prescriptions of the management plans developed during the first two years.

An essential component of the Private Lands Program is the promotion and encouragement of sound forest management. The Agreement has fostered the development of associations of wood lot owners and their organization into a federation. In addition, the Agreement contributed to **The Forestry Extension Handbook,** a valuable reference for those without formal training in forestry. The Private Forest Lands Program hosted mixed wood symposiums in Fort St. John and Dawson Creek. A number of workshops were held with land owners and other interested groups. General interest in the Program has dramatically increased during the third year.

Prince George Office

A branch office of the Canadian Forestry Service in Prince George was opened in October of 1986. The office provides a point of contact for developing projects under the Agreement, offers assistance, and disseminates information. The Prince George office is a necessary link to private woodlot owners federal forest lands and Indian Bands, and is a valuable adjunct to technology transfer to industry and the local college, and local program development. The Prince George office provides an effective avenue through which the

region can communicate it's particular needs and concerns.

Federal Forest Lands Program

Under the Federal Forest Lands Program of the Agreement, the Canadian Forestry Service has prepared inventories and management plans on 4,813 hectares of seventeen properties held by the Department of National Defense.

During 1987/88, silviculture plans were implemented. This included the completion of silvicultural management sales on two properties held by the Department of National Defense. The sale of 8,000 cubic metres generated over $109,000 in revenue. This sale enabled brush removal, commercial thinning, and the planting of 26.2 hectares with 24,000 trees.

A video presentation on sound forest management on Department of National Defense lands was developed.

The Federal Forest Lands Program has the potential of providing employment and access to an untapped wood supply through integrated land use.The 1987/88 expenditure under this program was $40,900.

Federally Managed Extension, Demonstration and R & D

The Federally Managed component develops and transfers applied research to operational foresters managing public, private and Indian lands. During the1987/88 fiscal year $892,800 was spent on backlog reforestation (1.6), primarily in reforestation and site preparation projects. An additional $77,000 was spent on intensive forest management research (2.6). Expenditures in this subprogram of the Agreement have stimulated over $200,000 in various contributions from private sectors.

To the end of March, 1988, 51 projects have been approved, evenly distributed among university, industry and private consultant researchers. Two hundred people have been employed through these Extension, Demonstration and R&D projects, generating just under 5,000 days of employment.

Sixteen projects were completed and one video was produced. In addition, workshops and 16 FRDA Research Memos enabled silvicultural research results to be conveyed to operational foresters. $331,000 was spent under a federal communication budget for technical transfer, brochures and national forest awareness projects.

Amendments to the 1987/88 Work Plan

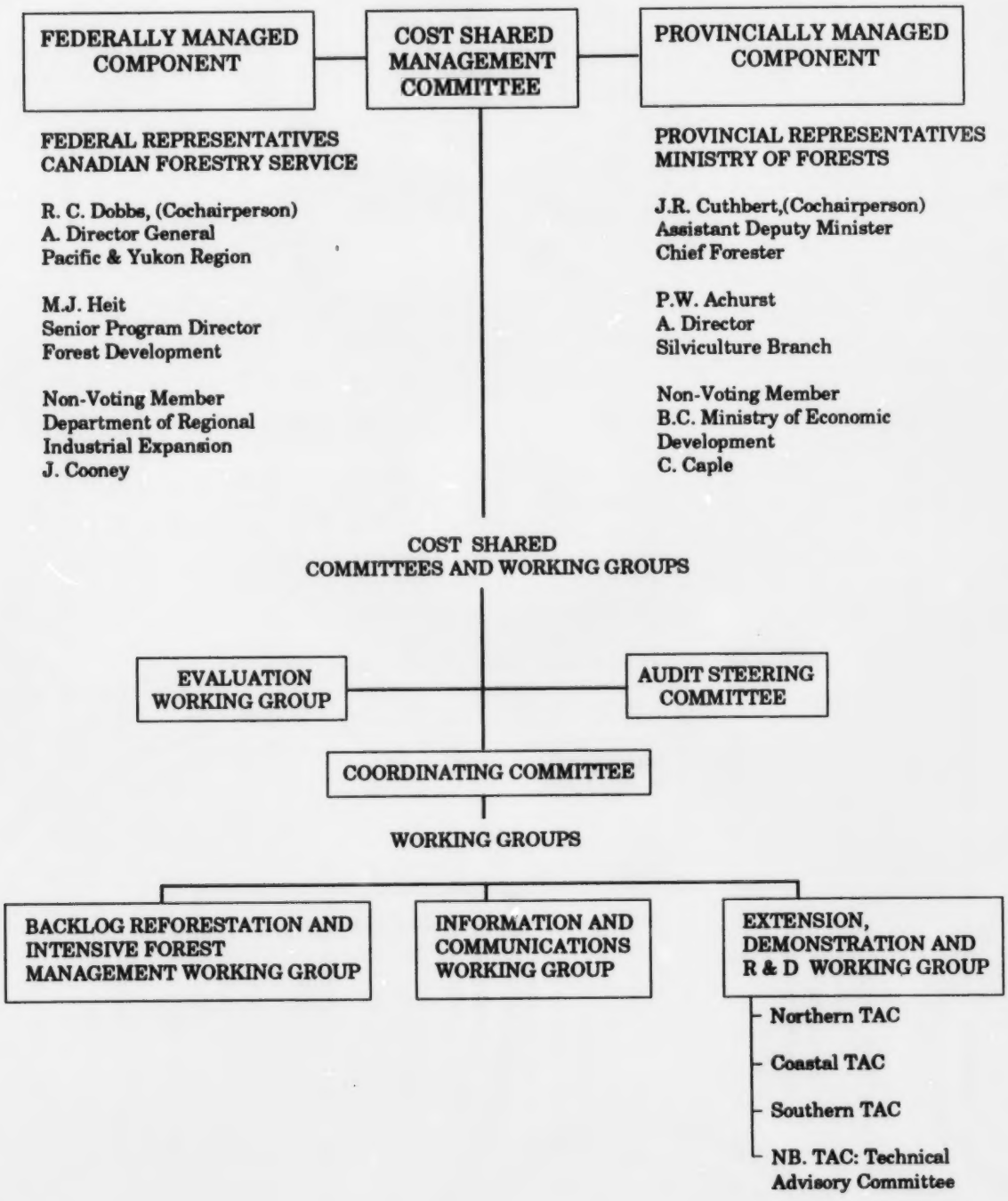
No amendments to the Agreement were recommended to the Ministers by the Management Committee during 1987/1988. The variance between the actual expenditures and the 1987/1988 Work Plan are shown in Table 3.

TABLE 3
Variance from the 1987/1988 work plan

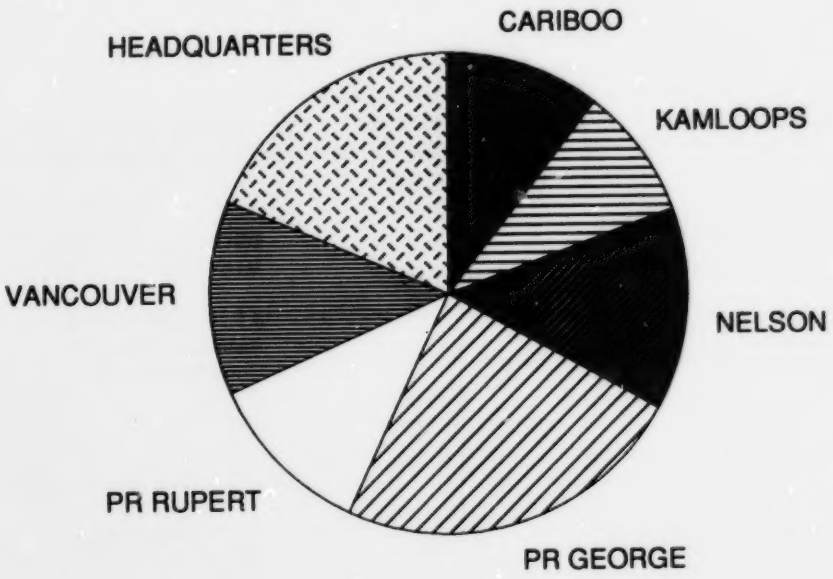
Component	Budget	Expenditures	Variance
Cost-shared (50% Federal; 50% Provincial)	62,400,000	58,670,653	-3,729,347
Federal Component	7,800,000	5,718,369	-2,081,631
Provincial Component	6,425,000	5,927,341	-497,659
Total	76,625,000	70,316,363	-6,308,637

CANADA-BRITISH COLUMBIA FOREST DEVELOPMENT AGREEMENT

FIGURE 1
MANAGEMENT COMMITTEE STRUCTURE



FRDA
1987/88 EXPENDITURES
BY REGION



	($)
CARIBOO	6 254 103
KAMLOOPS	5 294 757
NELSON	7 923 069
PR GEORGE	13 969 862
PR RUPERT	6 695 250
VANCOUVER	7 600 427
HEADQUARTERS	10 933 185
TOTAL	58 670 653
PROVINCIAL COMPONENT	5 927 341
FEDERAL COMPONENT	5 718 369
TOTAL	70 316 363

FRDA, Table 4

1987/1988 COST SHARED EXPENDITURES BY SUBPROGRAM ($)

Programs and Subprograms	Cariboo	P. George	Kamloops	Nelson	P. Rupert	Vancouver	HDQTR	SUB.TOTAL
Program #1. BACKLOG REFORESTATION								
1.1 Surveys and Prescriptions	581,474	861,074	280,907	351,878	377,719	267,868	0	2,720,920
1.2 Seeds and Seedlings	-	-	-	-	-	-	6,310,976	6,310,976
1.3 Site Preparation	805,293	4,827,346	642,365	1,225,374	1,596,979	427,471	0	9,524,828
1.4 Planting	1,725,688	4,488,347	1,435,936	3,565,511	1,033,295	467,321	0	12,716,098
1.5 Implementation	NA	NA	NA	NA	NA	NA	NA	NA
1.6 Extension, Demonstration and R & D	-	-	-	-	-	-	3,844,564	3,844,564
Program Total	3,112,455	10,176,767	2,359,208	5,142,763	3,007,993	1,162,660	10,155,540	35,117,386
Program #2. INTENSIVE FOREST MANAGEMENT								
2.1 Brushing and Weeding and Pest Control	18,928	670,810	713,457	224,861	682,146	715,564	0	3,025,766
2.2 Conifer Release	348,976	211,259	90,420	122,143	110,172	267,547	0	1,150,517
2.3 Juvenile Spacing	2,081,920	1,753,129	1,492,546	1,678,911	2,044,655	3,916,096	0	12,967,257
2.4 Fertilization	347,481	480,124	282,254	345,635	421,139	1,053,299	888	2,930,820
2.5 Implementation	NA	NA	NA	NA	NA	NA	NA	NA
2.6 Extension, Demonstration	NA	NA	NA	NA	NA	NA	NA	NA
Program Total	2,797,305	3,115,322	2,578,677	2,371,550	3,258,112	5,952,506	888	20,074,360
Program #3. IMPLEMENTATION, COMMUNICATIONS AND EVALUATION								
3.1 Implementation Contracts, Monitoring & Evaluation	344,343	677,773	356,872	408,756	429,145	485,261	395,814	3,097,964
3.2 Communications	0	0	0	0	0	0	380,943	380,943
Program Total	344,343	677,773	356,872	408,756	429,145	485,261	776,757	3,478,907
GRAND TOTAL	6,254,103	13,969,862	5,294,757	7,923,069	6,695,250	7,600,427	10,933,185	58,670,653

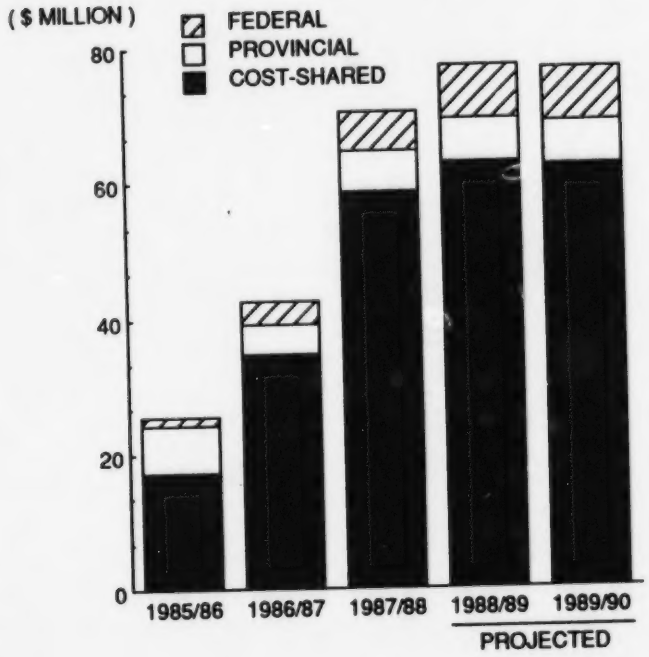
Note: The above figures are based on claimable expenditures under the Agreement.

FRDA

1987/1988 COST SHARED EXPENDITURES: Table 4 CONTINUED, ($)

Programs and Subprograms	Cost shared total	Provincial	Federal	1987/88 Total
Program #1. BACKLOG REFORESTATION				
1.1 Surveys and Prescriptions	2,720,920	NA	977,647	3,698,567
1.2 Seeds and Seedlings	6,310,976	4,293,306	143,654	10,747,936
1.3 Site Preparation	9,524,828	NA	409,544	9,934,372
1.4 Planting	12,716,098	NA	78,685	12,794,783
1.5 Implementation	NA	NA	1,128,305	1,128,305
1.6 Extension, Demonstration and R & D	3,844,564	1,004,822	1,459,554	6,308,940
Program Total	35,117,386	5,298,128	4,197,389	44,612,903
Program #2. INTENSIVE FOREST MANAGEMENT				
2.1 Brushing and Weeding and Pest Control	3,025,766	172,748	105,580	3,304,094
2.2 Conifer Release	1,150,517	NA	48,235	1,198,752
2.3 Juvenile Spacing	12,967,257	NA	726,916	13,694,173
2.4 Fertilization	2,930,820	NA	0	2,930,820
2.5 Implementation	NA	NA	407,784	407,784
2.6 Extension, Demonstration and R & D	NA	456,465	202,241	658,706
Program Total	20,074,360	629,213	1,490,756	22,194,329
Program #3. IMPLEMENTATION, COMMUNICATIONS AND EVALUATION				
3.1 Implementation Contracts, Monitoring & Evaluation	3,097,964	NA	30,224	3,128,188
3.2 Communications	380,943	NA	NA	380,943
Program Total	3,478,907	NA	30,224	3,509,131
GRAND TOTALS	58,670,653	5,927,341	5,718,369	70,316,363

FRDA
EXPENDITURES
(1985 - 1990)



FRDA, Table 5

CUMULATIVE COST SHARED EXPENDITURES (April 1, 1985- March 31, 1988), ($)

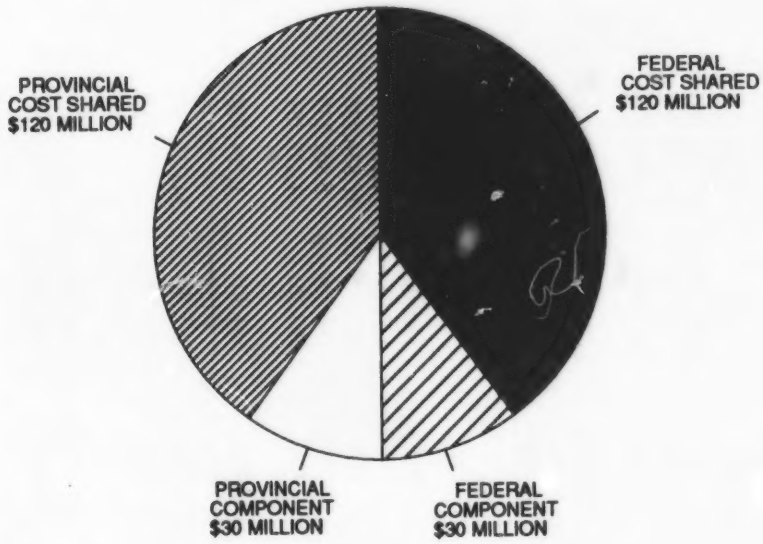
Programs and Subprograms	Cariboo	P. George	Kamloops	Nelson	P. Rupert	Vancouver	HDQTR	Total
Program #1. BACKLOG REFORESTATION								
1.1 Surveys and Prescriptions	1,535,748	1,985,576	734,792	761,929	1,000,996	701,320	-	6,720,397
1.2 Seeds and Seedlings	11,100	-	-	6,059	-	-	15,332,534	15,349,693
1.3 Site Preparation	1,552,608	11,308,671	1,869,019	3,562,431	3,169,879	1,420.549	-	22,883,157
1.4 Planting	2,836,121	8,679,121	3,560,013	5,197,977	1,760,220	1,610,452	-	23,643,894
1.5 Implementation	-	-	-	-	-	-		NA
1.6 Extension, Demonstration and R & D							6,926,856	6,926,856
Program Totals	5,935,603	21,973,368	6,163,824	9,528,396	5,931,095	3,732,321	22,259,390	75,523,997
Program #2. INTENSIVE FOREST MANAGEMENT								
2.1 Brushing and Weeding and Pest Control	95,186	829,632	967,011	284,985	855,874	1,458,168	-	4,490,856
2.2 Conifer Release	380,441	254,145	100,080	135,987	159,752	553,761	-	1,584,166
2.3 Juvenile Spacing	2,822,130	2,061,748	1,780,666	1,997,977	2,906,699	6,452,531	-	18,021,751
2.4 Fertilization	517,227	643,037	461,957	538,958	601,950	2,299,903	888	5,063,920
2.5 Implementation	-	-	-	-	-	-	-	NA
2.6 Extension, Demonstration and R & D	-	-	-	-	-	-	-	NA
Program Totals	3,814,984	3,788,562	3,309,714	2,957,907	4,524,275	10,764,363	888	29,149,805
Program #3. IMPLEMENTATION, COMMUNICATIONS AND EVALUATION								
3.1 Implementation Contracts, Monitoring & Evaluation	422,490	1,179,174	535,299	687,959	650,743	772,462	563,221	4,811,348
3.2 Communications							979,011	979,011
Program Totals	422,490	1,179,174	535,299	687,959	650,743	772,462	1,542,232	5,790,359
TOTALS	10,173,077	26,941,104	10,008,837	13,174,262	11,106,113	15,269,146	23,802,510	110,475,049

FRDA Table 5 continued

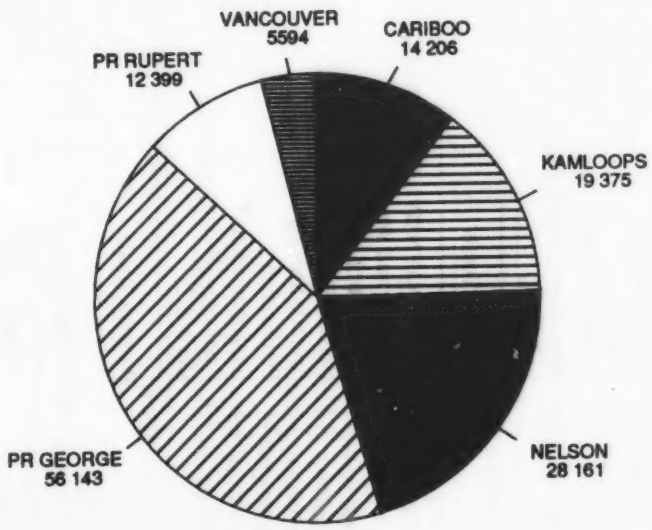
CUMULATIVE EXPENDITURES (April 1, 1985 to March 31, 1988),($)

Programs and Subprograms	Cost Shared	Province	Federal	Total
Program #1. BACKLOG REFORESTATION				
1.1 Surveys and Prescriptions	6,720,397	NA	1,777,375	8,497,772
1.2 Seeds and Seedlings	15,349,693	13,415,989	180,537	28,946,219
1.3 Site Preparation	22,883,157	NA	456,188	23,339,345
1.4 Planting	23,643,894	NA	104,899	23,748,793
1.5 Implementation	NA	NA	2,316,834	2,316,834
1.6 Extension, Demonstration and R & D	6,926,856	2,109,227	2,420,128	11,456,211
Program Totals	75,523,997	15,525,216	7,255,952	98,305,174
Program #2. INTENSIVE FOREST MANAGEMENT				
2.1 Brushing and Weeding and Pest Control	4,490,856	532,846	118,485	5,142,187
2.2 Conifer Release	1,584,166	NA	120,359	1,704,525
2.3 Juvenile Spacing	18,021,751	NA	815,185	18,836,936
2.4 Fertilization	5,063,920	NA	188,390	5,862,335
2.5 Implementation	NA	NA	1,293,561	1,293,561
-2.6 Extension, Demonstration and R & D	NA	1,243,103	551,805	1,794,908
Program Totals	29,159,805	1,775,949	3,087,785	34,023,539
Program #3. IMPLEMENTATION, COMMUNICATIONS AND EVALUATION				
3.1 Implementation Contracts, Monitoring & Evaluation	4,811,348	51,438	50,013	4,912,799
3.2 Communications	979,011	68,011	39,608	1,086,630
Program Totals	5,790,359	119,449	89,621	5,999,429
GRAND TOTALS	110,475,049	17,420,614	10,433,367	138,328,142

FRDA 5 YEAR BUDGET



FRDA
5 YEAR PLANTING GOALS BY REGION
(hectares)

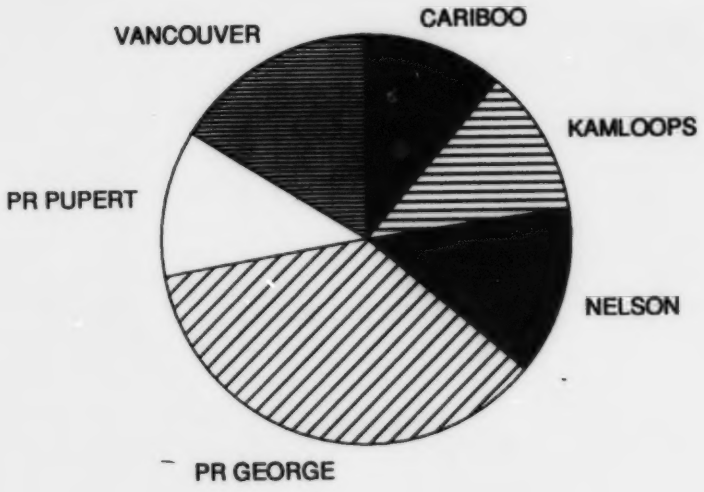


FRDA, Table 6
FIVE YEAR PLAN: BUDGET, 1985-1990,($'000)

Programs and Subprograms	1985/6	1986/7	1987/8	1988/9	1989/90	Total
COST SHARED PROGRAMS:						
Program #1. BACKLOG REFORESTATION						
1.1 Surveys and Prescriptions	1,022	2,978	2,389	2,432	2,553	11,373
1.2 Seeds and Seedlings	4,322	4,717	8,125	8,125	8,125	33,414
1.3 Site Preparation	4,291	9,067	11,583	12,156	12,770	50.868
1.4 Planting	3,972	6,955	13,590	15,520	15,520	55,558
1.5 Implementation	-	-	-	-	-	-
1.6 Extension, Demonstration and R & D	1,120	1,962	3,616	3,606	3,606	13,90
Program Totals	14,727	25,679	39,303	41,839	42,575	164,123
Program #2. INTENSIVE FOREST MANAGEMENT						
2.1 Brushing and Weeding and Pest Control	341	1,124	3,076	3,525	3,570	11,636
2.2 Conifer Release	1	433	912	1,400	1,300	4,046
2.3 Juvenile Spacing	1,825	3,229	12,367	9,808	8,591	35,821
2.4 Fertilization	2	2,131	2,872	2,481	2,667	10,153
2.5 Implementation	-	-	-	-	-	-
2.6 Extension, Demonstration and R & D	-	-	-	-	-	-
Program Totals	2,169	6,917	19,227	17,215	16,128	61,656
Program #3. IMPLEMENTATION, COMMUNICATIONS AND EVALUATION						
3.1 Implementation Contracts, Monitoring & Evaluation	179	1,535	3,354	3,354	3,353	11,775
3.2 Communications	0	598	517	517	344	1,975
Program Totals	179	2,133	3,870	3,871	3,697	13,750
TOTALS	17,075	34,729	62,400	62,925	62,400	239,529
DIRECTLY MANAGED PROGRAMS: FEDERALLY MANAGED	2,200	3,453	7,800	7,800	7,800	29,053
PROVINCIALLY MANAGED	6,330	4,410	6,425	6,423	6,422	30,010
GRAND TOTAL	25,605	42,592	76,625	77,148	76,622	298,592

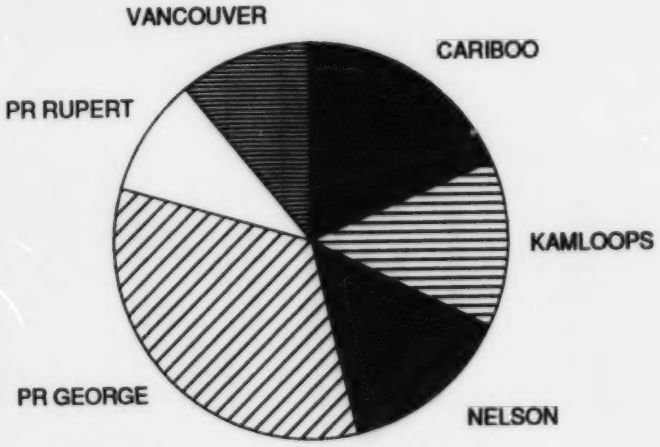
(figures have been rounded)

CUMMULATIVE FRDA ACHIEVEMENTS
(EXCLUDING SURVEYS)
1985 - 1988



CARIBOO	21 795	ha
KAMLOOPS	22 345	
NELSON	25 884	
PR GEORGE	70 233	
PR RUPERT	22 577	
VANCOUVER	30 929	
TOTAL	193 763	ha

FRDA SURVEYS
CUMMULATIVE ACHIEVEMENTS
(1985 - 1988)



CARIBOO	85 282	ha
KAMLOOPS	61 980	
NELSON	65 112	
PR GEORGE	151 973	
PR RUPERT	45 008	
VANCOUVER	48 488	
TOTAL	457 843	ha

FRDA, Table 7
CUMULATIVE AREA TREATED (April 1, 1985- March 31, 1988), (hectares)
COST SHARED PROGRAMS

Programs and Subprograms	Cariboo	George	Kamloops	Nelson	Rupert	Vancouver	Total
Program #1. BACKLOG REFORESTATION							
1.1 Surveys and Prescriptions	85,282	151,973	61,980	65,112	45,008	48,488	457,843
1.3 Site Preparation	5,318	33,982	4,171	7,695	7,106	2,243	60,515
1.4 Planting	7,124	25,771	10,769	11,989	5,135	3,420	64,208
1.5 Implementation							
1.6 Extension, Demonstration and R & D							NA
Program Totals	97,724	211,726	76,920	84,796	57,249	54,151	582,566
(1.2 Seeds and Seedlings ('million)	9.55	32.62	13.25	13.06	5.83	3.37	77.68)
Program #2. INTENSIVE FOREST MANAGEMENT							
2.1 Brushing and Weeding and Pest Control	118	3,151	1,801	691	2,663	4,047	12,471
2.2 Conifer Release	268	473	198	45	62	521	1,567
2.3 Juvenile Spacing	6,578	3,410	3,301	2,641	5,052	9,037	30,019
2.4 Fertilization	2,389	3,446	2,105	2,823	2,559	11,661	24,983
2.5 Implementation							NA
2.6 Extension, Demonstration and R & D							NA
Program Totals	9,353	10,480	7,405	6,200	10,336	25,266	69,040
Program #3. IMPLEMENTATION, COMMUNICATIONS AND EVALUATION							
3.1 Implementation Contracts, Monitoring & Evaluation							NA
3.2 Communications							NA
Program Totals							NA
TOTALS	107,077	222,206	84,325	90,996	67,585	79,417	651,606

FRDA, Table 8

CUMULATIVE PERSON DAYS OF WORK CREATED (April 1, 1985- March 31, 1988)

Programs and Subprograms	Cariboo	P. George	Kamloops	Nelson	P. Rupert	Vancouver H.Q.	Total
COST SHARED PROGRAMS:							
Program #1. BACKLOG REFORESTATION							
1.1 Surveys and Prescriptions	8,528	15,197	6,198	6,511	4,501	4,849 -	45,784
1.2 Seeds and Seedlings	9,550	32,620	13,250	13,060	5,830	3,370 -	77,680
1.3 Site Preparation	2,659	16,991	2,086	3,848	3,553	1,122 -	30,258
1.4 Planting	14,248	51,542	21,538	23,978	10,270	6,840 -	128,416
1.5 Implementation	-	-	-	-	-	- -	NA
1.6 Extension, Demonstration and R & D	-	-	-	-	-	- 41,561	41,561
Total	34,985	116,350	43,072	47,397	24154	16,181 41,561	323,699
Program #2. INTENSIVE FOREST MANAGEMENT							
2.1 Brushing and Weeding and Pest Control	236	6,302	3,602	1,382	5,326	8,094 -	24,942
2.2 Conifer Release	670	1,183	495	113	155	1,303 -	3,918
2.3 Juvenile Spacing	26,312	13,640	13,204	10,564	20,208	36,148 -	120,076
2.4 Fertilization	239	345	211	282	256	1,166 -	2,498
2.5 Implementation	-	-	-	-	-	- -	NA
2.6 Extension, Demonstration and R & D	-	-	-	-	-	- -	NA
Total	27,457	21,470	17,512	12,341	25,945	46,711 -	151,434
Program #3. IMPLEMENTATION, COMMUNICATIONS AND EVALUATION							
3.1 Implementation Contracts, Monitoring & Evaluation							20,849
3.2 Communications							
COST SHARED TOTAL	62,442	137,819	60,583	59,738	50.099	62,891	500,224
DIRECTLY MANAGED PROGRAMS:							23,709
PROVINCIAL PERSON DAYS							22,873
FEDERAL PERSON DAYS							
GRAND TOTAL CUMMULATIVE							546,806